AMENDMENTS TO THE CLAIMS

1. **(Currently amended)** A recombinant nucleotide sequence which codes upon expression a bifunctional hybrid active-site serine β-lactamase protein, wherein the β-lactamase protein is a class A, C or D β-lactamase protein that bears at least one heterologous sequence, ~~wherein the β-lactamase protein bears the at least one heterologous sequence in a region forming a juncture between alpha helix 8 and alpha helix 9 of said active-site serine β-lactamase~~ in a region located between two neighboring alpha helices of the β-lactamase sequence, wherein the region is selected from the group consisting of:

a) a region forming a juncture between alpha helix 8 and alpha helix 9 of TEM-1 β-lactamase; and

b) a region forming a juncture between the alpha helices of said class A, C or D β-lactamase, said alpha helices corresponding to the alpha helix 8 and alpha helix 9 of the TEM-1 β-lactamase, ~~and~~

wherein the hybrid protein has two functions, wherein, in said bifunctional hybrid protein, the first function is associated with the β-lactamase portion and the second function is associated with the at least one heterologous sequence having a biological function which is different from the first function.

2.-5. **(Canceled)**

6. **(Previously presented)** The recombinant nucleotide sequence according to Claim 1, wherein the β-lactamase moiety is a class A β-lactamase, wherein said β-lactamase class A protein bears the at least one heterologous sequence in the region forming a juncture between alpha helix 8 and alpha helix 9.

7. **(Previously presented)** The recombinant nucleotide sequence according to claim 1, wherein the region forming a juncture between alpha helix 8 and alpha helix 9 is selected from the group consisting of:

a) amino acid sequence Thr195 to Leu199 of the TEM-1 β-lactamase; and

b) an amino acid sequence in a β-lactamase other than TEM-1 β-lactamase corresponding to the amino acid sequence Thr195 to Leu199 in TEM-1 β-lactamase.

8.-11. **(Canceled)**

12. **(Currently amended)** A recombinant nucleotide sequence which codes upon expression a bifunctional hybrid class A β-lactamase ~~class A~~ protein, wherein the class A β-lactamase ~~class A~~ protein bears at least one heterologous sequence in a region located between two neighboring alpha helices of the β-lactamase sequence, wherein the region is selected from the group consisting of:

a) ~~the~~ a region forming a juncture between alpha helix 8 and alpha helix 9 of the TEM-1 β-lactamase; and

b) ~~the~~ a region forming a juncture between the alpha helices of said ~~a homologous~~ class A β-lactamase ~~class A~~, said alpha helices corresponding to the alpha helix 8 and alpha helix 9 of the TEM-1 β-lactamase,

wherein the hybrid protein has a first function and a second function, wherein the first function is associated with the β-lactamase portion and is selected from the group consisting of:

c) hydrolyzing β-lactams (β-lactamase activity); and

d) binding covalently and in a stable manner to substances selected from the group consisting of β-lactams, derivatives of β-lactams, and inhibitors of β-lactams;

and wherein the second function is associated with the at least one heterologous sequence having a biological function which is different from the first function.

13.-15. **(Canceled)**

16. **(Previously presented)** The recombinant nucleotide sequence according to Claim 1, wherein the at least one heterologous sequence has a length of 11 or more amino acid residues.

17. **(Previously presented)** The recombinant nucleotide sequence according to Claim 1, wherein the at least one heterologous sequence has a length of 18 or more amino acid residues.

18. **(Previously presented)** The recombinant nucleotide sequence according to Claim 1, wherein the at least one heterologous sequence has a length of 25 or more amino acid residues.

19. **(Previously presented)** The recombinant nucleotide sequence according to Claim 1, wherein the at least one heterologous sequence has a length of 50 or more amino acid residues.

20. **(Previously presented)** The recombinant nucleotide sequence according to Claim 1, wherein the at least one heterologous sequence has a length of 100 or more amino acid residues.

21. **(Currently amended)** The recombinant nucleotide sequence according to Claim 1, wherein the nucleotide sequence coding for the β-lactamase sequence encodes ~~is selected from the group consisting of:~~

~~a) nucleotide sequence coding for the β-lactamase TEM-1 (SEQ ID NO: 1)~~

~~b) nucleotide sequence coding for the~~ β-lactamase BlaP (SEQ I D NO: 2)~~;~~

~~c) nucleotide sequence coding for the β-lactamase BlaL (SEQ ID NO: 3);~~

~~d) nucleotide sequence coding for the β-lactamase AmpC (SEQ ID NO: 39); and~~

~~e) nucleotide sequence coding for the β-lactamase BlaR-CTD (SEQ ID NO: 41);~~

~~f) a recombinant sequence of one or more of a) to e); and~~

~~g) nucleotide sequences which hybridize under stringent conditions to the nucleotide sequences of any one of a) to f)~~.

22. **(Currently amended)** The recombinant nucleotide sequence according to Claim 1, wherein the at least one heterologous sequence is ~~related to a function~~ selected from the group consisting of: ~~being~~ an epitope, ~~being~~ a specific binding partner for antibodies, ~~being~~ a sequence that is specifically recognized and bound by antibodies, a sequence having a binding affinity to earth alkali and metal ions, a sequence having enzymatic activity, ~~being~~ a toxin, ~~(~~STa heat-stable enterotoxin of *E. coli*~~)~~, ~~bearing~~ a glycosylation site, ~~bearing~~ a glycosylated peptide, ~~being~~ a specific binding partner for any polypeptide or any ligand, and a sequence having a binding affinity to dsDNA, ~~and~~ ssDNA or RNA ~~(having a binding affinity to nucleotide and polynucleotide)~~.

23. **(Currently amended)** The recombinant nucleotide sequence according to Claim 1, wherein ~~the~~ at least one nucleic acid sequence encoding the at least one heterologous sequence ~~is selected from the group consisting of: STa (heat-stable enterotoxin of *Escherichia coli*, SEQ ID NO: 21),~~ encodes protein A of *Staphylococcus aureus* with two Fc Binding domains, (SEQ ID NO: ~~23 and~~ 25~~), protein G of *Streptococcus pyogenes*, (SEQ ID NO: 27 and 29), a linear antigenic determinant of the hemagglutinin of the Influenza virus (SEQ ID NO: 31), a fragment of human phospholipase type 11 (hPLA2) (SEQ ID NO: 33), and LPS binding amino acid sequence (SEQ ID NO: 35), and nucleotide sequences which hybridize under stringent conditions to said nucleotide sequences~~.

24.-53. **(Canceled)**